CLAIMS:

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- 1. A method of encoding an audio signal by representing at least part of said audio signal by a plurality of sinusoids, the method comprising the steps of:
- performing an analysis on a first segment of said audio signal;
- selecting candidate sinusoids based on said analysis;
- defined by an extent to which a phase of said candidate sinusoid at a certain moment in time can be predicted from a phase of said candidate sinusoid determined at another moment in time; and
 - selecting said candidate sinusoid as a selected sinusoid when its phase consistency is above a predetermined threshold.
 - 2. A method as claimed in claim 1, wherein the determination of said candidate sinusoid's phase consistency comprises the steps of:
 - segmenting a second segment of said audio signal into at least a first and a second part;
 - determining the actual phases of said candidate sinusoid in at least the first and the second part;
 - using the actual phase in the first part to serve as the input for predicting the actual phase in the second part; and
- determining said candidate sinusoid's phase consistency based on a prediction error between the actual phase and the predicted phase in the second part.
 - 3. A method as claimed in claim 1, wherein the method further comprises a further selection out of the selected sinusoids which comprises the steps of:
- 25 defining for at least one of the selected sinusoids a local frequency band around said selected sinusoid's frequency;
 - combining amplitudes of frequency components within said local frequency band from which at least one of the selected sinusoids within said local frequency band is excluded; and

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- further selecting said selected sinusoid as a further selected sinusoid in dependence on the combination of amplitudes.
- A method as claimed in claim 3, wherein a bandwidth of said local frequency
 band around said selected sinusoid's frequency is defined in dependence on said selected sinusoid's frequency.
 - 5. A method as claimed in claim 4, wherein said dependence on said selected sinusoid's frequency is based on a human's perception of audio.

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- 6. A method as claimed in claim 3, wherein said selected sinusoid is further selected as a further selected sinusoid when its amplitude is significant with regard to said combination of amplitudes, which significance is evaluated by thresholding a difference between said selected sinusoid's amplitude and a weighted mean amplitude of frequency components within said selected sinusoid's local frequency band from which at least one of the selected sinusoids within said local frequency band is excluded.
- 7. A method as claimed in claim 3, wherein said selected sinusoid is further selected as a further selected sinusoid when its amplitude is significant with regard to said combination of amplitudes, which significance is evaluated by thresholding a ratio of:
- a difference between said selected sinusoid's amplitude and a weighted mean amplitude of frequency components within said selected sinusoid's local frequency band from which at least one of the selected sinusoids within said local frequency band is excluded; and
- 25 a weighted deviation of the amplitudes of frequency components within said local frequency band from which at least one of the selected sinusoids within said local frequency band is excluded.
 - 8. An audio encoder for encoding an audio signal by representing at least part of said audio signal by a plurality of sinusoids, the audio encoder comprising:
 - means for performing an analysis on a first segment of said audio signal;
 - means for selecting candidate sinusoids based on said analysis;
 - means for determining for at least one of the candidate sinusoids a phase consistency defined by an extent to which a phase of said candidate sinusoid at a certain

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moment in time can be predicted from a phase of said candidate sinusoid determined at another moment in time; and

- means for selecting said candidate sinusoid as a selected sinusoid when its phase consistency is above a predetermined threshold.

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- 9. An audio encoder as claimed in claim 8, wherein the audio encoder is further conceived to perform a further selection out of the selected sinusoids for which further selection the audio encoder further comprises:
- means for defining for at least one of the selected sinusoids a local frequency band around said selected sinusoid's frequency;
 - means for combining amplitudes of frequency components within said local frequency band from which at least one of the selected sinusoids within said local frequency band is excluded; and
- means for further selecting said selected sinusoid as a further selected sinusoid in dependence on the combination of amplitudes.
 - 10. Audio system comprising means for obtaining an audio signal, an audio encoder as claimed in claim 8 or 9 for encoding said audio signal to obtain an encoded audio signal, and a formatting unit for formatting the encoded audio signal into a format suitable for storage and/or transmission.